MediaTek Genio IoT Platform: Building Secure, Low-Power Retail Devices

Learn more: https://www.mediatek.com/products/internet-of-things

If we look at the current trend in smart retail technology, teams are under constant pressure to do more with less infrastructure. This means checkout lines need to move faster, inventory needs to stay accurate in real time, and every device on the shop floor needs to stay connected and secure.

This is where **IoT solutions for smart retail** built on MediaTek's platforms come in.

> By combining **edge AI-powered IoT** with **low-power IoT chipset solutions**, MediaTek is giving device makers and retailers the building blocks to create stores that respond instantly to what is happening in every aisle.

Why Smart Retail Needs Smarter Hardware

Modern stores are no longer just physical locations. Point-of-sale terminals, self-checkout kiosks, digital signage, and inventory scanners all generate information that needs to be processed quickly and securely.

MediaTek's approach centers on **IoT hardware for enterprise devices** that can handle payments, product tracking, and customer engagement without depending entirely on the cloud.

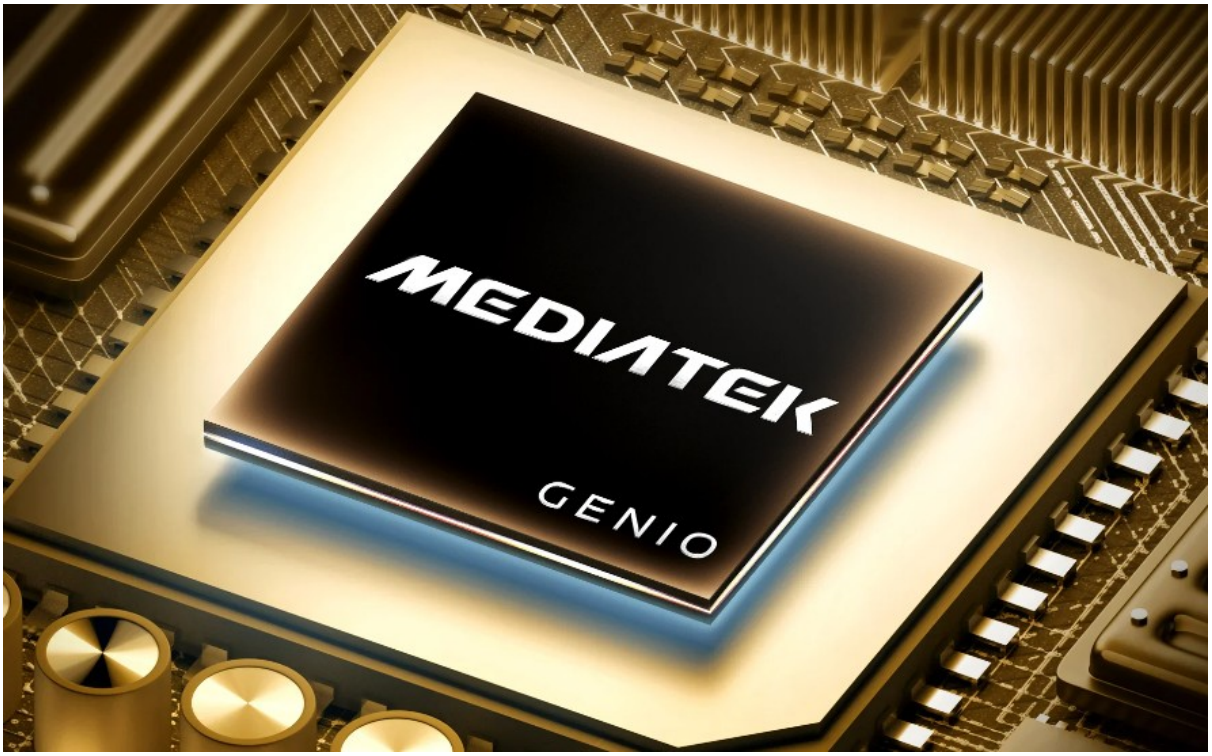
This matters because retail environments cannot afford lag. A slow checkout process or a signage screen that takes seconds to update creates friction for shoppers and staff alike.

Processing data closer to where it is generated, on the device itself, is what makes real-time decision-making possible on the retail floor.

MediaTek Genio IoT: The Platform Behind the Devices

The **MediaTek Genio IoT** processors are designed specifically for this kind of always-on and always-responsive hardware. The Genio lineup, ranging from the entry-level Genio 350 to the flagship Genio Pro 5100, gives manufacturers a scalable set of options depending on how much processing power and AI capability a device needs.

What makes Genio particularly useful for enterprise buyers is its unified software platform.



This means engineering teams can develop once using a unified SDK across Android, Yocto Linux, and Ubuntu, then scale that same codebase across an entire product line instead of rebuilding for every new device.

This reduces both development time and long-term maintenance costs, thus streamlining the process.

Genio chips also come with dedicated NPUs, which enable **edge AI-powered IoT devices** to run vision, voice, and generative AI tasks locally.

For retail, this means smarter self-checkout stations, AI-driven digital signage that adjusts content based on foot traffic, and cameras that can detect restocking needs without sending every frame to a remote server.

Connectivity and Security Built for the Retail Floor

Connectivity is the most important thing for retailers.

Most MediaTek Genio chipsets come with built-in Wi-Fi, Bluetooth, and support for external 5G RedCap modules, giving retailers **secure IoT connectivity solutions** that keep POS systems, RFID scanners, and networked kiosks online without constant dropouts.

At the same time, features like NFC, biometric authentication, and encrypted transaction processing are built into the silicon, ensuring that data stays where tit should.

Additionally, power efficiency is also an important factor. Handheld POS devices and battery-operated scanners cannot be tethered to a wall outlet all day.

MediaTek's **low-power IoT chipset solutions** dynamically switch between high-performance and energy-efficient cores, extending battery life on mobile retail hardware while still delivering the processing power needed for AI tasks.

Real-World Proof Points

Here are some real-world usage scenarios that reveal the advanced system.

AAEON, a designer of industrial IoT hardware, used the Genio 510 to scale its smart vending machine deployments, addressing rising demand in the self-service retail space.

Xiangcheng Communication built its P10 smart POS device on a MediaTek SoC to improve transaction performance for retailers and mobile merchants.

Additionally, it separately used the T15 platform to boost logistics efficiency for e-commerce operations.

ADLINK also turned to the Genio 510 to bring AI capability into a smart coffee machine, showing how the same chipset family stretches across very different retail and food service use cases.

What This Means for Enterprise Buyers

> For OEMs, systems integrators, and retail technology leads, the takeaway is straightforward. MediaTek's Genio IoT platform gives you one hardware and software foundation that scales across POS systems, inventory tools, and digital signage, backed by a 10-year longevity program for long deployment cycles.

Additionally, combined with edge AI performance and secure, low-power connectivity, it is a practical path toward building the connected, intelligent stores that today's retail market demands.

FAQs

What is MediaTek Genio IoT?
MediaTek Genio IoT is a family of system-on-chip processors built to power smart, connected devices like POS systems, kiosks, and digital signage.

How does edge AI help in smart retail?
Edge AI lets retail devices process data like video and voice right on the device, so stores get instant, real-time responses instead of waiting on the cloud.

Why is low-power chipset design important for retail hardware?
Low-power chipsets keep battery-operated devices like handheld POS terminals and scanners running longer without needing frequent charging.